0020

WATER QUALITY MEMORANDUM

Utah Coal Regulatory Program

June 8, 2007

TO: Internal File

THRU: D. Wayne Hedberg, Permit Supervisor

FROM: Steve Fluke, Reclamation Hydrogeologist

RE: 2006 Fourth Quarter Water Monitoring, Canyon Fuel Company, SUFCO Mine, C/041/0002-WQ06-4, Task ID #2607

1. Was data submitted for all required monitoring sites? YES [X] NO [ ]

The SUFCO Mine is currently operational. Water monitoring data is evaluated from the data that is submitted quarterly by the mine to the Division EDI database. The water monitoring program, field and laboratory measurement protocols, and groundwater and surface water operational water quality parameters are outlined in the mine's MRP in Tables 7-2, 7-3, 7-4, and 7-5, respectively. Quarterly groundwater monitoring for the SUFCO Mine is required for three quarters only (second, third, and fourth quarters). UPDES reporting requirements are presented in Appendix 7-7 of the MRP.

Additional water monitoring is being conducted as part of the East Fork of Box Canyon monitoring and mitigation plan outlined in Appendix 3-10 of the MRP. This monitoring data is being submitted and reviewed separately from the EDI database monitoring data, although there is some overlap.

Surface *Operational sampling is required quarterly for sixteen stream monitoring sites. Two stream monitoring sites (Pines 407 and 408) are equipped with pressure transducers because monthly monitoring is required July through October each year. Two stream monitoring sites (FP-1 and FP-2) require the identification of the perennial portion of stream on or near October 1 of each year. For Pines 407, Pines 408, FP-1, FP-2, USFS-109, and Pines 106, flow data, perennial stream flow maps, and the results of weather data/flow data comparison will be submitted with the fourth quarter monitoring report each year.*

All surface monitoring sites were sampled and data submitted for the 2006 fourth quarter monitoring. The fourth quarter climate/discharge report was submitted to the Division on April 2, 2007.

Groundwater and Wells *Operational sampling is required quarterly for twenty-five spring monitoring sites and eleven groundwater monitoring well sites including the five waste rock disposal site (WRDS) wells. In addition, operational sampling is required yearly for two additional groundwater monitoring wells.*

All groundwater and well sites were sampled/measured and data submitted for the 2006 fourth quarter monitoring.

UPDES *Operational sampling is required monthly for three active UPDES sites (UT002198-001, -002, and -003A).*

All UPDES sites were sampled and data submitted for the 2006 fourth quarter monitoring.

2. Were all required parameters reported for each site? YES [X] NO [ ]

Surface All required parameters were reported.

Groundwater and Wells All required parameters were reported.

UPDES All required parameters were reported.

3. Were any irregularities found in the data? YES [X] NO [ ]

Surface No irregularities were found with the following exceptions:

041 – Dissolved calcium concentration was reported above two standard deviations for historical data. Total iron was reported at 1.9 mg./L, exceeding the DWQ Class 3A Cold Water Aquatic Wildlife standard of 1.0 mg/L.

046 - Dissolved calcium concentration was reported above two standard deviations for historical data.

Pines 106 – Total dissolved solids, dissolved calcium and magnesium, and sulfate concentrations were reported above two standard deviations for historical data.

Groundwater and Wells No irregularities were found with the following exceptions:

Pines 105 – Flow has ceased since undermining in winter 2005/2006.

Pines 214 – Flow remains low and conductivity high since undermining in 2003.

Pines 303 – Flow diminished since 2001.

UPDES No irregularities were found with the following exception:

003 – Total iron was reported at 1.21 mg/L, which exceeds the UPDES limit of 1.0 mg/L. DWQ was notified of the exceedance.

4. On what date does the MRP require a five-year resampling of baseline water data?

The MRP does not require a five-year resampling of baseline water data.

5. Based on your review, what further actions, if any, do you recommend?

Surface An investigation of the North Water Spring area (Pines 105) is underway to characterize the hydrology of the North Water drainage. A finding of material damage was made by the Division for loss of water and habitat.

Continue monitoring stream stations in the East Fork of Box Canyon for trends of diminished water quality and flow. The undermining of the stream had created fractures in the stream channel that interrupted surface flow until repairs were made in the fall of 2004. Flow has since resumed to historic flow amounts.

Groundwater and Wells An investigation of the North Water Spring area (Pines 105) is underway to characterize the hydrology of the North Water drainage. A finding of material damage was made by the Division for loss of water and habitat.

Continue monitoring springs in the East Fork of Box Canyon. Flow from Pines 214 has significantly diminished and two pairs of twin springs (EFB-12 and EFB-13) have ceased flowing based on additional monitoring data from the EFB monitoring and mitigation plan. These impacts are not unexpected, and the effects on natural habitat will be monitored to determine if mitigation is necessary.

UPDES No further action is recommended.

6. Does the Mine Operator need to submit more information to fulfill this quarter's monitoring requirements? YES [ ] NO [X]

7. Follow-up from last quarter, if necessary. Did the Mine Operator submit or provide an

explanation for missing and/or irregular data?

Not necessary

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